- **stone ttt**
  - **Factors**
    - **stone(s3nl)**
      - size
      - shape
        - smooth
        - spiky
      - No.
        - multi
        - laterality
          - uni
          - bilat.
            - worest
      - site
        - ureter
          - upper 1/3
            - no dormia
              - Avulsion
              - use forceps
              - or desntig. in situ
          - med. & lower
            - no ESWL
            - ESWL
              - controversal
                - neck
                  - narrow
                  - long
                - angle of calyx
                - dylated or not
              - lower calyx
                - kidney
                - no medical
                - no medical
      - UT
        - patency
        - other path.
          - tumour
          - افتح بالمرة
    - **patient**
      - preference
      - general fitness
    - **surgeon**
      - instruments
      - skills
  - **which 1st**
    - obstructed
    - infected
    - more painful
    - surgeon prefrence
  - **medical**
    - when
      - patent distally
      - ∠6-8ml
      - smooth
      - not OFK
      - not multi.
      - can tolerate
    - hydration
    - ↓salt intake
    - include
      - thiazides
      - resin
      - citrate
      - MG
  - **Endoscopic**
    - Extraction
      - 7-8ml
    - disentegration
      - .08-1.5cm
      - types
        - U/S
        - electrolytic
        - pneumatic
        - laser
        - lapaxy
          - mechanical
          - only in bladder
          - minimally used
  - **laproscopy**
  - **open surgery**
    - large >2cm
    - special stones
      - staghorn
      - kidney
      - jack
      - bladder
    - associated path.
      - in diverticulum
  - **ESWL**
    - criteria
      - ∠3 stones
      - burden <2cm
      - no distal obst.
      - not in
        - middle 1/3
        - lower1/3
        - ureter
      - not dense (compare to bone)
    - contraindication
      - F. to stone
        - burden>2cm
        - dense
        - lower calycx (not contraind.)
      - F. to patient
        - b leeding tend.
        - Pregnant
        - pacemaker
        - UTIinfection
        - large aortic aneu.
        - obese >120kg
        - bad Condition
      - absolute
        - pregnant
        - distal ob.
        - bleeding
        - cr. >3
      - others
        - distal obstruction
        - other patho.
    - comp.
      - R. to stone
        - R.colic
        - stein strasse
        - failed
        - incomp. disent.
        - urtroscopy
        - PCN
        - medical ttt
      - R. to shock W.
        - bruises
        - preneph. hematoma
        - hematonephrosis
        - hematourea
        - flare infection
        - pancraetitis